

Appl. No. 10/682,092
Reply to Office Action of October 17, 2006

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REMARKS/ARGUMENTS

Status of Claims

Claims 10 to 31 are currently pending in the application.

Amendments to the Claims

Claim 10 has been amended by replacing the expression "wherein upon detection that the auxiliary transit antenna is not coupled to the auxiliary transit antenna port, the wireless network node does not use the auxiliary transit antenna port for communications" with "wherein upon detection that the auxiliary transit antenna is not coupled to the auxiliary transit antenna port, the wireless network node uses only the at least one transit antenna for communications" so as to recite the claim limitation in a positive action manner.

Claim 10 has been further amended by replacing the expression "wherein upon detection that the auxiliary transit antenna is coupled to the auxiliary transit antenna port, an additional transit link can be established using the auxiliary transit antenna port and the auxiliary transit antenna simultaneously with the use of the one or more transit links provided by the at least one transit antenna" with "wherein upon detection that the auxiliary transit antenna is coupled to the auxiliary transit antenna port, adding the auxiliary transit antenna to a list of available antennas adapted for at least one of transmitting and receiving wireless signals so that the auxiliary transit antenna can be included or ignored as appropriate for at least one of transmitting and receiving wireless signals through the auxiliary transit antenna coupled to the auxiliary transit antenna port". The limitation is substantially the same as found in independent claims 26 and 29, which is supported by the application as found on pages 29, lines 11-20 and page 30, lines 9-19.

Claims 26 and 29 have been amended by replacing the expression "a list of active antennas" with "a list of available antennas". This amendment is fully supported by the application at page 29, lines 11-13.

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35 U.S.C. § 103(a) Rejections

The requirements for establishing a *prima facie* case of obviousness as set out in the MPEP Section 2143.01 require that references when combined teach all of the claimed limitations, that there be a reasonable expectation of success in realizing the claimed invention, and that there be a motivation to combine the references.

Claims 10, 11, 13, 16, and 19 to 21 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Deutsche Publication No. DE 19653443 A1 (Gerhauser) in view of International Publication No. WO 95/13668 (Pennock).

The Examiner alleges that Gerhauser discloses "A wireless network node for providing transit of data with other wireless network nodes in a wireless network, the wireless network node comprising: at least one transit antenna to provide data transmission between at least one other wireless network node in the wireless network and the wireless network node; an auxiliary transit antenna port to which an auxiliary transit antenna can be coupled", but fails to disclose the remainder of the limitations of the claim. It is alleged that Pennock discloses these additional limitations.

In the Pennock reference, it is readily apparent that the switching system discussed is forming part of a "portable radiotelephone" (see the Abstract for example). This is analogous to a mobile device 9 in Figure 1 of the present invention for example. The only type of link established from the mobile terminal of Pennock is an access link. An access link is a link between a network node and a mobile station. In Applicant's disclosure and claims, "transit" refers to communications that are between pairs of wireless network nodes in a wireless network. There is no concept of additional transit links between the radiotelephone and other devices.

Furthermore, while there may be two antennas that are physically present in Pennock when the second antenna 107 has been connected to the portable radiotelephone 103, the antenna detector circuit 113 detects whether or not the second antenna is attached, and if so switch 115 switches the active transmission path between the internal and the external antenna transmission paths. Pennock does not have the option of ignoring the second antenna 107; if detected by the

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antenna detector circuit 113, switch 115 enables the use and the second antenna 107, which consequently disables use of the first antenna 105.

Turning now to Applicant's claim 10, the claim has been amended to recite that when the auxiliary transit antenna is detected, the auxiliary transit antenna is added to a list of active antennas adapted for at least one of transmitting and receiving wireless signals so that the auxiliary transit antenna can be included or ignored as appropriate for at least one of transmitting and receiving wireless signals through the auxiliary transit antenna coupled to the auxiliary transit antenna port. Thus, when the detected auxiliary transit antenna is on a list of active antennas, the wireless network node is capable of making use of the detected auxiliary transit antenna or ignoring the auxiliary transit antenna as appropriate. This is different than what is disclosed in Pennock as Pennock discloses that if the second antenna 107 is detected, it will be enabled as the antenna to be used. In addition, Pennock does not disclose the concept of a list of available antennas to which the auxiliary antenna can be added after it has been detected, such that when on the list of active antennas, the auxiliary antenna can be included or ignored as appropriate for transmitting and receiving wireless signals.

With reference to claim 26, on page 14 of the present Office Action, the Examiner concedes that Pennock does not disclose the newly added limitation in amended claim 10. As the Examiner concedes that neither Pennock nor Gerhauser disclose this limitation, clearly the combination of the two references does not disclose all the limitations of amended claim 10.

For at least the reasons discussed above, Applicant respectfully submits that Gerhauser and Pennock, either alone or in combination, do not teach all the limitations recited in amended claim 10 as alleged by the Examiner. Applicant submits that the Examiner has failed to satisfy a first criterion required in establishing a *prima facie* case of obviousness, namely that all limitations be taught by the cited art.

Applicant submits that there would be no reasonable expectation of success in a combination of subject matter of the two references. As discussed in detail above, neither of the two references, either alone or in combination, suggests or discloses all the limitations of amended claim 10. Without all the limitations of claim 10 being disclosed by the two references,

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either alone or in combination, it is not reasonable to expect to achieve the invention in the manner recited. Therefore, the Examiner has failed to satisfy the second criterion for establishing a *prima facie* case of obviousness, namely that there is a reasonable expectation of success in a combination of subject matter of the two references.

With regard to motivation to combine the references, Applicant submits that neither of the two pieces of cited art suggest the subject matter of the other piece of prior art in a manner that would lead one skilled in the art to arrive at the claimed invention by a review of the two references. In addition, neither reference refers to the other. The respective prior art does not suggest, either alone or in combination the desirability of the claimed invention. As was clearly stated *In re Kotzab*, 55 USPQ2d 1313, 1318 "Identification of prior art statements that, in abstract, appear to suggest claimed limitation does not establish *prima facie* obviousness without a finding as to specific understanding or principle within knowledge of skilled artisan that would have motivated one with no knowledge of invention at issue to make combination in manner claimed" (emphasis added).

Gerhauser discloses a network in which at least one network node has at least one first antenna and at least one second antenna which are always present in the network node. As such there would be no reason to have a detector to detect if an auxiliary antenna was coupled to an auxiliary antenna port. Applicant submits that Gerhauser in fact teaches away from Pennock and the present invention in that it has a fixed arrangement of at least one first antenna and at least one second antenna, not an separate external antenna as disclosed in Pennock or an auxiliary transit antenna that may or may not be attached to an auxiliary transit antenna as recited in amended claim 10. As Gerhauser teaches away from Pennock, Applicant respectfully submits that this is a further reason that there is no motivation to combine the references.

The Examiner states it would have been obvious to combine the teachings of Gerhauser and Pennock "for the purpose of detecting the presence of an auxiliary antenna for the purpose of generating a control signal in response". Applicant respectfully submits that this alone is not a sufficient motivation to combine the two cited references and arrive at the claimed invention. As recited in amended claim 10, the auxiliary transit antenna is added "to a list of active antennas adapted for at least one of transmitting and receiving wireless signals so that the auxiliary transit

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antenna can be included or ignored as appropriate for at least one of transmitting and receiving wireless signals through the auxiliary transit antenna coupled to the auxiliary transit antenna port". There is no suggestion of adding an auxiliary transit antenna to a list of active antennas such that the auxiliary transit antenna can be included or ignored as appropriate in either of the two references. Applicant submits that the Examiner has failed to establish suitable motivation for combining the two references.

Applicant submits there is no teaching, suggestion, or motivation to combine the teachings of Gerhauser and Pennock in the manner proposed by the Examiner in the Office Action. The Examiner has failed to satisfy the third criterion for establishing a *prima facie* case of obviousness, namely that there be a motivation to combine the references.

As the Examiner has failed to satisfy the necessary criteria for establishing a *prima facie* case of obviousness with respect to claim 10, for at least the reasons discussed above, Applicant submits that claim 10 patentably distinguishes over the cited references of Gerhauser and Pennock, either alone or in combination. It is respectfully requested that the Examiner reconsider and withdraw the obviousness rejection to claim 10.

With further regard to the Examiner stating that Pennock does not disclose the limitation found in claim 26 that has been added to amended claim 10, the Examiner (in the rejection of claim 26) alleges that U.S. Patent No. 5,341,375 (Buchholz) discloses this limitation. With respect, Buchholz does not discuss generating lists of antennas, and then adding an antenna upon detecting that it exists or not. Rather, as detailed in passages referred to by the Examiner, see for example column 5, lines 33 to 50, a list of active antennas is constructed, this simply being the list that is in active communication with a particular UM (user mobile) 12. The list of antennas will be different for a different UM, and have nothing to do with whether or not an auxiliary transit antenna has been added or not. Therefore, Applicant submits that there is no combination of Gerhauser, Pennock and Buchholz that discloses all the limitations of amended claim 10.

Claims 11, 13, 16 and 19 to 21 are dependent upon claim 10, either directly or indirectly and therefore Applicant submits that these claims similarly distinguish over the cited prior art. It

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is respectfully requested that the Examiner withdraw the obviousness rejection to the identified claims.

Claims 12, 14, 15 and 17 to 25 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Gerhauser in view of Pennock and in view of various other references. To begin, these claims all depend upon one of the above-discussed claims, claims 10, 11, 13 or 16. In view of Applicant's submission regarding the 35 U.S.C. 103 rejection of those claims, these dependent claims should also be patentable. Provided below are a few further comments on some of these dependent claims. Failure to refer to a particular claim in the comments below is not a concession that the additional subject matter of those claims is taught in the additional reference being combined with Gerhauser and Pennock.

With particular reference to the objections set out in paragraph 8 of the detailed action (see page 9-10) which concern claims 17 and 18, the Examiner indicates that "the combination fails to specifically disclose further comprising at least one access antenna to permit data transmission both to and from wireless mobile terminals located proximate to wireless network node". Applicant respectfully submits that what Pennock does disclose is only the inclusion of such an access antenna. As discussed above the "wireless network node" of Pennock is a portable telephone, and it only has access capability and as such has an access antenna. What is missing from Pennock is any transit link functionality as Pennock is only directed to access link functionality. The Examiner also argues that Difonzo *et al.* (WO 03/017591) teaches the inclusion of a transit link radio and coupled to at least one transit antenna and the auxiliary transit antenna. However with respect, reviewing Difonzo, there is no auxiliary transit link antenna. Difonzo teaches the inclusion of at least one dynamically directionally controllable communications link, but there is no discussion of this being provided through an antenna that is an auxiliary antenna. Rather, this is simply another one of the antennas that is always present on the device.

Regarding claims 20, 21, 24 and 25, the Examiner points to Difonzo as teaching the inclusion of an auxiliary transit antenna having either higher gain or higher data rate, etc. However, as discussed above there is no concept of an "auxiliary transit antenna" in Difonzo. Rather, there are simply a set of antennas that all operate in the same manner. There is no

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discussion of the fact that some of the antennas are regular transit antennas, and then the auxiliary antenna that is removable might have either greater gain or higher data rate, etc. than the other antennas.

Regarding claims 22 and 23, the references to a "directional-mount" that the Examiner has found in Difonzo in fact refers to steerable beams, these being steered using a beam forming array as opposed to different mounting of the antennas. It is respectfully submitted that it is clearly not the same to employ a directional-mount as opposed to steerable radiation beams. See page 6, line 21 of Difonzo.

The Examiner has rejected claims 26 to 31 under 35 U.S.C. 103(a) as being unpatentable over Pennock *et al.* in view of U.S. Patent No. 5,341,375 (Buchholz). On page 2 of the Official Action the Examiner states that the arguments from the previous response have been rendered moot in view of the new grounds of rejection. However, the Examiner has maintained the rejection of claims 26-31 having regard to the same two references that were used in rejecting these claims previously, that being Pennock and Buchholz. As the arguments for claims 26-31 from the previous Office Action response were not rendered moot by a new rejection in the present Office Action, the arguments submitted below are substantially the same as those submitted in the previous Office Action.

To begin, Pennock does not disclose a method of operating a wireless network node having an auxiliary transit antenna port, or determining whether or not there is an auxiliary antenna coupled to the transit antenna port as suggested by the Examiner on page 14 of the detailed action. As discussed above, Pennock is used for access link functionality, not transit link functionality. The Examiner concedes that Pennock does not disclose adding the auxiliary transit antenna to a list of active antennas adapted for at least one of transmitting and receiving wireless signals so that the auxiliary transit antenna can be included or ignored as appropriate for at least one of transmitting and receiving wireless signals through the auxiliary transit antenna coupled to the auxiliary transit antenna port, or "upon determining that an auxiliary transit antenna is not coupled to the auxiliary transit antenna port, removing the auxiliary transit antenna from a list of active antennas so that the auxiliary transit antenna will not be used".

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The Examiner argues that Buchholz discloses this subject matter. As discussed in detailed above, Buchholz does not discuss generating lists of antennas, and then adding an antenna upon detecting that it exists or not. The list of antennas will be different for a different UM, and have nothing to do with whether or not an auxiliary transit antenna has been added or not. Furthermore, a UM is a "user mobile", see the Abstract, and as such Buchholz is again dealing with communication over access links.

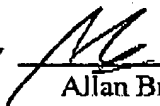
In view of the fact that neither Pennock nor Buchholz teach the limitations suggested by the Examiner, it is respectfully submitted that the combination of these two references does not render claim 26 obvious. Claims 27 and 28 depend upon claim 26 and should be allowable for the same reasons. Claim 29 is similar in scope to claim 26 but referring to a controller instead, and as such similar comments apply. Claims 30 and 31 depend upon claim 29.

In view of the above discussion, the Examiner is respectfully requested to withdraw the 35 U.S.C. 103 rejections of the claims.

In view of the foregoing, early favorable consideration of this application is earnestly solicited.

Respectfully submitted,

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Dated: March 14, 2007

RAB:MSS:mcg